



DRAWINGS ATTACHED.

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COMPLETE SPECIFICATION.

Coiled Magnetic Cores of Magnetic Strip.

We, MINISTERUL INDUSTRIEI CONSTRUC-
TILOR DE MASINI, a Rumanian Govern-
ment Department, represented by GHITA
ION, Ing. Deputy Minister, Bucharest, cal.
5 Victoriei, 133—Rumania, do hereby declare
the invention, for which we pray that a
patent may be granted to us, and the method
by which it is to be performed, to be par-
ticularly described in and by the following
10 statement:—

This invention relates to cylindrical mag-
netic cores coiled from magnetic strips, for
use as columns for power transformers and
similar apparatus.

15 Magnetic cores coiled from strips which
have been proposed heretofore, for example
in West German Patent 1,050,893, have the
disadvantage that the axial dimension is
limited by the width of the strip used.
20 Superposition in the axial direction of several
coils, in order to obtain a core whose axial
dimension is greater than the width of the
strip, introduces unwanted air gaps.

The present invention allows cylindrical
25 magnetic cores made from coiled strip to be
of greater axial dimension than the width of
the strip used.

The present invention is a circular cylin-
drical magnetic core formed by simultane-
30 ously coiling a plurality of layers of magnetic
steel strips, each layer comprising at least
two strips, the sum of the width of the strips
in each layer being equal to the axial dimen-
sion of the core, and with at least one longi-
35 tudinal edge of each strip being staggered in
relation to those in adjacent turns of the
resultant coil.

An embodiment of the present invention
will now be described, by way of example,
40 with reference to the accompanying draw-
ing, in which the single figure is a diagram-
matic representation of a core according to
the present invention.

The core is formed from two layers 11 and

[Price 4s. 6d.]

12 of permeable magnetic steel strips, which 45
may have width-wise oriented grains. The
layers 11, 12 are coiled together on a man-
drel of any suitable diameter, but not less
than that on which the strips may be curved
50 without breaking. The outer layer 11 con-
sists of two strips 13 and 14 each of width
A, and the inner layer 12 consists of a strip
16 of width A intermediate two strips 15 and
17 of width A/2. The resultant core thus
55 has an axial dimension of 2A, or twice the
width of the broadest strip used. The gaps
18 between strips 13 and 14 in layer 11
and the gaps 19 and 20 between strips 15,
16 and 17 in layer 12 are not superposed
60 but staggered, so that the gaps in one turn
of the resultant core are located adjacent
the middle of strips in the adjacent turns.

If strip with width-wise oriented grains
is used, a core is obtained with grain
orientation parallel to the core axis.

The core may have series of tightly-wound
turns separated by one or more axially ex-
tending voids for the circulation of a cool-
ing medium.

It should be understood that the core 70
shown in the drawing is tightly coiled. The
spaces shown between the turns are present
only to allow the construction of the core to
be clearly seen.

After coiling, the core may have shrink- 75
rings or clamps applied to it and be sub-
jected to annealing for stress relief. After
annealing the shrink-rings or clamps are re-
placed by reinforcing parts of insulating
material.

WHAT WE CLAIM IS:—

1. A circular cylindrical magnetic core 80
formed by simultaneously coiling a plurality
of layers of magnetic steel strips, each layer
comprising at least two strips, the sum of the
widths of the strips in each layer being equal
to the axial dimension of the core, and with
at least one longitudinal edge of each strip

being staggered in relation to those in adjacent turns of the resultant coil.

2. A magnetic core as claimed in claim 1, in which the number of strips in one layer differs from that in an adjacent layer or the adjacent layers.

3. A magnetic core as claimed in claim 2, in which one layer consists of at least two strips of equal width and the or each adjacent layer consists of at least one strip of the same width as each of said two strips and two others of half that width.

4. A magnetic core as claimed in any preceding claim, in which the strips are coiled into two or more series of tightly wound turns leaving one or more corresponding gaps, between the series, sufficient for the circulation of a cooling medium.

5. A magnetic core as claimed in any preceding claim, which after coiling has been annealed for stress relief.

6. A magnetic core as claimed in any preceding claim, including mechanical reinforcements for retaining the coil tightly wound.

7. A magnetic core as claimed in any preceding claim, in which the grains of the strips are oriented parallel to the axis of the core.

8. A cylindrical magnetic core substantially as hereinbefore described with reference to and as illustrated in the accompanying drawing.

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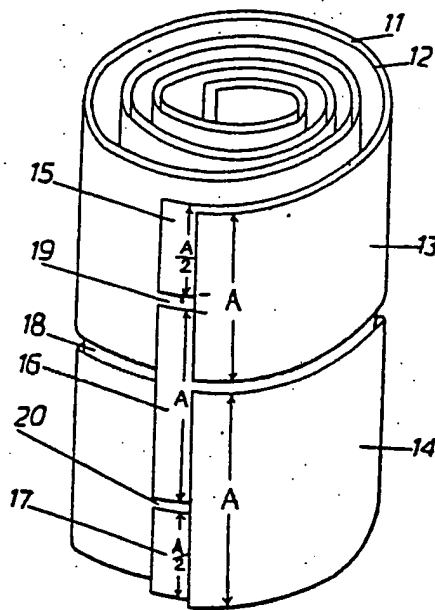
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COMPLETE SPECIFICATION

I SHEET

*This drawing is a reproduction of
the Original on a reduced scale*



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